

Amendments to the claims

1. (Currently Amended) An electromechanical control unit (12) for a musical instrument having keypad and/or touch pad areas (102) for controlling a signal processing unit, wherein
the control unit (12) includes a surface element (101),
whereby settings and values of said signal processing unit that can be changed by the user are controlled by touching of the surface element, which surface element has keypad and/or touch areas (102) provided with fixed and/or alternating symbols whereby changeable parameter values of the signal processing unit are controlled by touching and/or by gliding on said symbol with finger(s) or some other means,

characterised in that in order to adjust the parameter values that can be changed by the user the control unit ~~consists of~~comprises a thin and elastic layered structure comprising electrodes and an active transducer material between the electrodes;

wherein the active transducer material comprises a charged or a polarized cellular electret film or a piezoelectric material; and

whereby touching it generates there between the electrode surfaces a charge or voltage or capacitance change the place and/or amplitude of which is calculated with a microprocessor or alike, and based on this information said changeable parameter values are changed.

2. (Currently Amended) ~~A control unit as claimed in~~ The electromechanical control unit of claim 1, wherein the control unit ~~characterised in that it includes~~comprises at least one sensor matrix element (108) wherein at least part of the signal electrodes (106) corresponding to the touch sensitive areas (102) is coupled with resistors or capacitors (110) to each other and whereby the areas coupled to each other have at their outermost areas (109) been coupled to preamplifiers.

3. (Currently Amended) ~~A~~ The electromechanical control unit of claim 2, ~~sensor matrix element as claimed in claim 2 characterised in that wherein~~ when a single place in the sensor matrix element is pressed, is pressed the place that has been pressed ~~can be~~ is calculated from signals having different values at the preamplifiers due to the resistors or capacitors, whereby the signal processing unit is controlled with this information.

4. (Currently Amended) ~~A device as claimed in~~ The electromechanical control unit of claim 1 characterised in that based on the pressing force a function related to an area being pressed is affected. ~~the operation of the pressed area can be affected.~~

5. (Currently Amended) ~~A device as claimed in~~ The electromechanical control unit of claim 1 characterised in that in connection with the pressing the electric charge generated between the electrodes (106, 105) located on the outer surfaces of the transducer film ~~is used to~~ charge ~~charges~~ the batteries of the device.

6. Cancelled)

7. (Currently Amended) The electromechanical control unit of ~~A device as claimed in~~ claim 1 characterised in that an electronic switching circuit is applied in the signal processing unit in order to adjust the gain ~~of the~~ of preamplifiers of the keypad or touch pad and to set ~~the~~ a touch sensation suitable for the user.

8. (Currently Amended) The electromechanical control unit of claim 7, wherein the electronic switching circuit ~~An electronic coupling circuit as claimed in claim 7~~ characterised in that it comprises a processor for automatic adjustment of the gain of the preamplifiers with help of a mathematic algorithm.

9. (Currently Amended) The electromechanical control unit of claim 8, wherein the electronic switching circuit ~~An electronic coupling circuit as claimed in claim 8~~ characterised in that it comprises a temperature measurement means.

10. (Currently Amended) The electromechanical control unit of ~~A device as claimed in~~ claim 1 characterised in that it is of thin and elastic material.

11. (Currently Amended) The electromechanical control unit of A device as claimed in claim 1 characterised in that a display is arranged on its outer surface.

12. (Currently Amended) The electromechanical control unit of A device as claimed in claim 11 characterised in that the display is of thin and elastic material.

13. (Currently Amended) The electromechanical control unit of A device as claimed in claim 1 characterised in that the electromechanical response is based on one of the piezoelectric material and quasi-piezoelectric material arranged in ~~for~~ a form of one a film and ~~or~~ paint.

14. (new) An electromechanical signal control unit for controlling at least one parameter of a musical instrument, the control unit comprising:

a surface element comprising an input responsive to a user's touch, the input comprising an input area corresponding to the at least one parameter;

a thin and elastic layered structure comprising a plurality of electrodes and a transducer material,

the transducer material being disposed between the electrodes and comprising one a charged electret film, a polarized electret film, and a piezoelectric material, and

the electrode being responsive to the user's touch of the input in the input area by changing one of an electric charge, a voltage, and a capacitance;

a signal processing unit being responsive to the change of the one of electric charge, voltage, and capacitance and changing the at least one parameter of the musical instrument via a microprocessor.

15. (new) The control unit of claim 14 further comprising a plurality of input areas forming a sensor matrix and a plurality of electrodes;

wherein each symbol of the plurality of symbols is in communication with a corresponding one electrode of the plurality of electrodes, at least two of the plurality of electrodes coupled with one of a resistor and a capacitor to each other and wherein the input areas coupled to each other have at their outermost areas been coupled to preamplifiers.

16. (new) The control unit of claim 15, wherein one of the input areas of the sensor matrix is pressed by the user, the input area that has been pressed can be calculated from signals having different values at the preamplifiers due to the one of the resistor and the capacitor, the signal processing unit being responsive to the input area that has been pressed.

17. (new) The control unit of claim 14, the electrode being responsive to a force of the user's touch signal by proportionally by changing one of the electric charge, the voltage, and the capacitance, the signal processing unit being proportionally responsive to the change of the one of the electric charge, the voltage, and the capacitance.

18. (new) The control unit of claim 14, further comprising a battery, the electrode charging the battery by supplying the one of the electric charge, the voltage, and the capacitance.

19. (new) The control unit of claim 14, wherein the electrode comprises an electret bubble film.

20. (new) A control unit for controlling at least one parameter of a musical instrument, the control unit comprising:

a thin and elastic layered structure having a thickness of approximately 2 mm, the structure comprising a surface element, an electrode, and a signal processing unit,

the surface element comprising an input responsive to a user's touch, the input comprising an input area corresponding to the at least one parameter;

the electrode being responsive to the user's touch of the input in the input area by changing one of an electric charge, a voltage, and a capacitance;

a signal processing unit being responsive to the change of the one of electric charge, voltage, and capacitance and changing the at least one parameter of the musical instrument via a microprocessor.